

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

5 Applicant(s): Boer et al.
Case: 8-28-6-6
Serial No.: 10/672,657
Filing Date: September 26, 2003
Group: 2616
10 Examiner: Pawaris Sinkantarakorn

Title: Method and Apparatus for Detecting a Collision in a Carrier Sense Multiple
Access Wireless System

15

APPEAL BRIEF

20 Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

25 Sir:

Applicants hereby appeal the final rejection dated January 10, 2008, of claims 1-10 and 18-23 of the above-identified patent application.

REAL PARTY IN INTEREST

30 The present application is assigned to Agere Systems, Inc., as evidenced by an assignment recorded on February 2, 2004 in the United States Patent and Trademark Office at Reel 014951, Frame 0624. The assignee, Agere Systems, Inc., is the real party in interest.

RELATED APPEALS AND INTERFERENCES

35 There are no related appeals or interferences

STATUS OF CLAIMS

The present application was filed on September 26, 2003 with claims 1 through 23. Claims 11-17 were cancelled in the Amendment and Response to Office Action dated March 7, 2008. Claims 1-10 and 18-23 are presently pending in the above-identified patent application. Claims 1, 5-6, 8-10, 11, 15, and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by Wang et al. (United States Patent No. 5,721,733), claims 2, 7, 12, 17, 18, and 20-23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wales in view of Currivan et al. (United States Patent Application Publication Number 2003/0026283), and claims 3, 4, 13, 14, and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Currivan et al. as applied to claims 1, 2, 11, 12 and 18 above, and further in view of Fukuhara (United States Patent Number 6,643,296).

STATUS OF AMENDMENTS

The amendments filed in the Amendment and Response to Office Action dated March 7, 2008 have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a first wireless communication device (FIG. 1: 110), comprising: a controller capable of receiving an acknowledgement (ACK) message transmitted by a second wireless communication device (FIG. 1: 110) in response to a message transmitted by said first wireless communication device (FIG. 1: 110; page 6, lines 3-24), and a collision detector (FIG. 4: 400) that monitors a wireless medium for collisions of said acknowledgement message if a measured energy level exceeds a predefined threshold (page 6, line 25, to page 7, line 9).

Independent claim 18 is directed to a method for detecting a collision in a wireless communication network (FIG. 1: 100), said method comprising the steps of: determining if an acknowledgement message is received in response to transmitted data (page 6, lines 3-24); and monitoring said wireless communication network to detect a collision of said acknowledgement

message if a measured energy level exceeds a predefined threshold (page 6, line 25, to page 7, line 9)

STATEMENT OF GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

5 Claims 1, 5-6, 8-10, 11, 15, and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by Wang et al., and claims 2, 7, 12, 17, 18, and 20-23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wales in view of Currivan et al.

ARGUMENT

10 Independent Claims 1 and 18

 Independent claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Wang et al., and claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Wales in view of Currivan. Regarding claim 18, the Examiner acknowledges that Wales does not disclose that the collision detector evaluates an energy level and detects a collision based on
15 the energy level. The Examiner asserts, however, that Currivan et al. discloses a collision detection module that evaluates a power indication signal (citing par. 0072), and detects a collision *based on the evaluated power indication signal* (citing par. 75 and Table 1). In the Advisory Action, the Examiner asserts that Currivan discloses that a comparator receives a SNR indication signal and a threshold signal having a threshold value T2, then the comparator
20 compares these inputs and generates an output signal 459 that indicates the result of this comparison (paragraph 74) and that a collision is detected when the output signal 459, which indicates the average SNR of a burst transmission, is low.

 Applicants note that independent claim 11 has been cancelled and independent claim 1 has been amended to conform it to the scope of original claim 18.

25 First, to be precise, claim 18 and claim 1 do not merely require “detect(ing) a collision based on the evaluated power indication signal,” as suggested by the Examiner. Rather, claim 18 and claim 1, as amended, require “detect(ing) a collision of said acknowledgement message *if a measured energy level exceeds a predefined threshold*”

In par. 0076 of Currivan et al., it is clear that output signal 457 indicates the power of the data portion of a burst transmission. In Table 1, it is clear that output signal 457 does **not** correlate with whether a collision is detected. In fact, a collision can be detected if the output signal 457 is high (second row), medium (fourth row), low (sixth row) or high (seventh row). Thus, a collision is not detected in Currivan et al. “*if a measured energy level exceeds a predefined threshold,*” as required by independent claims 1 and 18, as amended.

Regarding the Examiner’s assertion that Currivan discloses that a collision is detected when the output signal 459 indicates the average SNR of a burst transmission is low, Applicants note that a SNR is a *signal-to-noise ratio* and is *not* a measured energy level (i.e., not a measured level of energy), as would be apparent to a person of ordinary skill in the art. Currivan does not disclose or suggest determining a measured energy level or determining *if a measured energy level exceeds a predefined threshold*

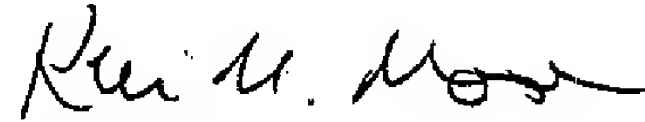
Thus, Wales, Currivan, and Fukuhara, alone or in combination, do not disclose or suggest a collision detector that monitors a wireless medium for collisions of said acknowledgement message *if a measured energy level exceeds a predefined threshold*

Conclusion

The rejections of the cited claims under section 103 in view of Wang, Wales, Currivan, and Fukuhara, alone or in any combination, are therefore believed to be improper and should be withdrawn. The remaining rejected dependent claims are believed allowable for at least the reasons identified above with respect to the independent claims.

The attention of the Examiner and the Appeal Board to this matter is appreciated

Respectfully,



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APPENDIX

1. A first wireless communication device, comprising:
 - a controller capable of receiving an acknowledgement (ACK) message
5 transmitted by a second wireless communication device in response to a message transmitted by
said first wireless communication device, and
 - a collision detector that monitors a wireless medium for collisions of said
acknowledgement message if a measured energy level exceeds a predefined threshold
- 10 2. The first wireless communication device of claim 1, wherein said collision
detector evaluates an energy level and detects a collision based on said energy level.
3. The first wireless communication device of claim 2, wherein said collision
detector includes a payload detector and detects a collision based on a detected payload.
- 15 4. The first wireless communication device of claim 3, wherein said collision
detector includes a preamble detector and detects a collision based on a detected preamble.
5. The first wireless communication device of claim 1, wherein said collision
20 detector is activated after said first wireless communication device transmits data.
6. The first wireless communication device of claim 1, wherein said collision
detector does not detect a collision if an ACK message or data header is received.
- 25 7. The first wireless communication device of claim 1, wherein said device is
implemented in accordance with the IEEE 802.11 Standard.

8. The first wireless communication device of claim 1, wherein said controller determines if said second wireless communication device correctly received said transmitted message by monitoring said wireless medium

5 9. The first wireless communication device of claim 1, wherein said controller determines that said second wireless communication device did not likely receive said message if a collision is detected.

10 10. The first wireless communication device of claim 1, wherein said controller determines that said collision was a cause of not receiving said ACK message.

11-17 (Cancelled).

15 18 A method for detecting a collision in a wireless communication network, said method comprising the steps of:

 determining if an acknowledgement message is received in response to transmitted data; and

 monitoring said wireless communication network to detect a collision of said acknowledgement message if a measured energy level exceeds a predefined threshold.

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 19. The method of claim 18, wherein said monitoring step further comprises the step of detecting a payload and said collision detection is further based on said detected payload.

25 20. The method of claim 18, wherein said monitoring step further comprises the step of detecting a preamble and said collision detection is further based on said detected preamble.

21. The method of claim 18, wherein said monitoring step is performed after said data is transmitted.

22. The method of claim 18, wherein said monitoring step does not detect a
5 collision if an ACK message or data header is received.

23. The method of claim 18, wherein said method is implemented in accordance with the IEEE 802.11 Standard

EVIDENCE APPENDIX

There is no evidence submitted pursuant to § 1.130, 1.131, or 1.132 or entered by the Examiner and relied upon by appellant.

RELATED PROCEEDINGS APPENDIX

There are no known decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 CFR 41.37.